Claims

1. A system for an interactive voice recognition system, comprising:

a voice prompt generator configured for generating voice prompt in a first frequency band;

a speech detector configured for detecting presence of speech energy in a second frequency band, wherein said first and second frequency bands are essentially conjugate frequency bands.

2. The system as recited in claim 1 further comprising:

a voice data generator for generating voice data based on an output of said voice prompt generator and audible speech of a voice response generator.

3. The system as recited in claim 1 further comprising:

a control signal for controlling said voice prompt generator based on whether said speech detector detects presence of speech energy in said second frequency band.

4. The system as recited in claim 1 further comprising:

a back end of said interactive voice recognition system configured to operate on an extracted front end voice feature based on whether said speech detector detects presence of speech energy in said second frequency band.

5. The system as recited in claim 1 wherein said first and second frequency bands include a plurality of conjugate frequency bands.

6.   A method for an interactive voice recognition system, comprising:

filtering output of a voice prompt generator in accordance with a first frequency band;

controlling said output of said voice prompt generator based on detection of a presence of speech energy in a second frequency band, wherein said first and second frequency bands are essentially conjugate frequency bands.

7.   The method as recited in claim 6 further comprising:

operating a back end of said interactive voice recognition system based on said detection of said presence of speech energy in said second frequency band.

8.   The method as recited in claim 6 further comprising:

generating voice data based on an output of said voice prompt generator and audible speech of a voice response generator, wherein said detection of said presence of speech energy in said second frequency band is based on processing of said voice data.

9.   The method as recited in claim 6 wherein said first and second frequency bands include a plurality of conjugate frequency bands.

10.   A microprocessor system for an interactive voice recognition system for operation in a remote device, comprising:

means for a voice prompt generator configured for generating voice prompt in a first frequency band;

means for a speech detector configured for detecting presence of speech
energy in a second frequency band, wherein said first and second frequency
bands are essentially conjugate frequency bands.

11. The microprocessor system as recited in claim 10 further comprising:
means for a voice data generator for generating voice data based on an
output of said voice prompt generator and audible speech of a voice response
generator.

12. The microprocessor system as recited in claim 10 further comprising:
means for generating a control signal for controlling said voice prompt
generator based on whether said speech detector detects presence of speech
energy in said second frequency band.

13. The microprocessor system as recited in claim 10 further comprising:
means for a back end of said interactive voice recognition system
configured to operate on an extracted front end voice feature based on whether
said speech detector detects presence of speech energy in said second
frequency band.

14. The microprocessor system as recited in claim 10 wherein said first and
second frequency bands include a plurality of conjugate frequency bands.

15. A microprocessor system configured for an interactive voice recognition
system, comprising:

means for filtering output of a voice prompt generator in accordance with

4 a first frequency band;

means for controlling said output of said voice generator based on

6 detection of a presence of speech energy in a second frequency band, wherein

said first and second frequency bands are essentially conjugate frequency

8 bands.

16. The microprocessor system as recited in claim 15 further comprising:

2 means for operating a back end of said interactive voice recognition

system based on said detection of said presence of speech energy in said

4 second frequency band.

17. The microprocessor system as recited in claim 15 further comprising:

2 means for generating voice data based on an output of said voice prompt

generator and audible speech of a voice response generator, wherein said

4 detection of said presence of speech energy in said second frequency band is

based on processing of said voice data.

18. The microprocessor system as recited in claim 15 wherein said first and

2 second frequency bands include a plurality of conjugate frequency bands.

19. A remote device for providing remote communication and interactive

2 voice recognition, comprising:

a voice prompt generator configured for generating voice prompt in a first

4 frequency band;

a speech detector configured for detecting presence of speech energy in

6   a second frequency band, wherein said first and second frequency bands are

essentially conjugate frequency bands;

8   a voice data generator for generating voice data based on an output of

said voice prompt generator and audible speech of a voice response generator;

10   a control signal for controlling said voice prompt generator based on

whether said speech detector detects presence of speech energy in said

12   second frequency band.

20.   The remote device as recited in claim 19 further comprising:

2   a back end of an interactive voice recognition system configured to

operate on an extracted front end voice feature based on whether said speech

4   detector detects presence of speech energy in said second frequency band.

21.   The remote device as recited in claim 19 further comprising:

2   means for providing a wireless communication link to a base station to

communicate, an extracted front end voice feature, based on whether said

4   speech detector detects presence of speech energy in said second frequency

band, to a back end of an interactive voice recognition system configured to

6   operate on said extracted front end voice feature.